

CLAIMS

What is claimed is:

1. A method comprising:
defining a finite set of document rendering intents as a basis for
document rendering;
expressing at least one desired document rendering strategy
comprising a first combination of the document rendering intents; and
associating the at least one desired document rendering strategy
with at least one rendering decision associated with a document.
2. The method as set forth in claim 1 wherein the defining a finite set
of document rendering intents further comprises defining a finite set of color
gamut mapping intents, wherein the expressing at least one desired document
rendering strategy further comprises expressing at least one desired color gamut
mapping strategy comprising a second combination of the gamut mapping intents,
and wherein the associating the at least one desired document rendering strategy
with at least one rendering decision associated with a document further comprises
associating the at least one desired color gamut mapping strategy with at least one
color in an input color gamut associated with the document.
3. The method as set forth in claim 2 wherein the expressing at least
one desired color gamut mapping strategy comprising a combination of the gamut
mapping intents further comprises providing a weight for each of the gamut
mapping intents.
4. The method as set forth in claim 3 further comprising determining
values for the weights based upon at least one of the color, a position of the color
within the document, the color at a particular position within the document, the
color in a region of the document, and an object within the document that is
associated with the color.

5. The method as set forth in claim 2 wherein the color gamut mapping intents comprise a colorimetric preserving intent, a hue preserving intent, a luminance preserving intent, or a saturation preserving intent.

5 6. The method as set forth in claim 1 further comprising:
identifying the finite set of document rendering intents at a rendering device, wherein a document rendering method is implemented by the rendering device for each of the document rendering intents; and
obtaining the associated desired document rendering strategy
10 associated with the at least one rendering decision.

7. The method as set forth in claim 6 further comprising:
performing the document rendering methods for each of the at least one rendering decision to obtain a plurality of intermediate rendering results for
15 each rendering decision; and
constructing a final rendering result for each of the at least one rendering decision by combining the intermediate rendering results according to the first combination specified in the desired document rendering strategy associated with the rendering decision.

20 8. The method as set forth in claim 6 wherein the identifying the finite set of document rendering intents at a rendering device further comprises identifying a finite set of color gamut mapping intents as a basis for performing color gamut mappings, wherein a color mapping method is implemented by the rendering device for each of the color gamut mapping intents, and wherein the
25 obtaining the associated desired document rendering strategy associated with the at least one rendering decision further comprises determining for at least one color in the document a desired color gamut mapping strategy comprising a second combination of the identified color gamut mapping intents.

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9. The method as set forth in claim 8 further comprising:
performing the color mapping methods for each of the at least one
color to obtain a plurality of basis color maps for each color; and
constructing a mapped color for each of the at least one color by
5 combining the basis color maps according to the second combination specified in
the desired color gamut mapping strategy associated with the color.

10. The method as set forth in claim 9 wherein the constructing a
mapped color for each of the at least one color by combining the basis color maps
10 according to the second combination specified in the desired color gamut mapping
strategy associated with the color further comprises:
determining a weighted average of the basis color maps for the
mapped color using a weight provided for each of the gamut mapping intents.

11. A computer-readable medium having stored thereon instructions,
15 which when executed by at least one processor, causes the processor to perform:
defining a finite set of document rendering intents as a basis for
document rendering;
expressing at least one desired document rendering strategy
20 comprising a first combination of the document rendering intents; and
associating the at least one desired document rendering strategy
with at least one rendering decision associated with a document.

12. The medium as set forth in claim 11 wherein the defining a finite
25 set of document rendering intents further comprises defining a finite set of color
gamut mapping intents, wherein the expressing at least one desired document
rendering strategy further comprises expressing at least one desired color gamut
mapping strategy comprising a second combination of the gamut mapping intents,
and wherein the associating the at least one desired document rendering strategy
30 with at least one rendering decision associated with a document further comprises
associating the at least one desired color gamut mapping strategy with at least one
color in an input color gamut associated with the document.

13. The medium as set forth in claim 12 wherein the expressing at least one desired color gamut mapping strategy comprising a combination of the gamut mapping intents further comprises providing a weight for each of the gamut mapping intents.

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14. The medium as set forth in claim 13 further comprising determining values for the weights based upon at least one of the color, a position of the color within the document, the color at a particular position within the document, the color in a region of the document, and an object within the document that is associated with the color.

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15. The medium as set forth in claim 12 wherein the color gamut mapping intents comprise a colorimetric preserving intent, a hue preserving intent, a luminance preserving intent, or a saturation preserving intent.

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16. The medium as set forth in claim 11 further comprising:
identifying the finite set of document rendering intents at a rendering device, wherein a document rendering method is implemented by the rendering device for each of the document rendering intents; and
obtaining the associated desired document rendering strategy associated with the at least one rendering decision.

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17. The medium as set forth in claim 16 further comprising:
performing the document rendering methods for each of the at least one rendering decision to obtain a plurality of intermediate rendering results for each rendering decision; and
constructing a final rendering result for each of the at least one rendering decision by combining the intermediate rendering results according to the first combination specified in the desired document rendering strategy associated with the rendering decision.

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18. The medium as set forth in claim 16 wherein the identifying the finite set of document rendering intents at a rendering device further comprises identifying a finite set of color gamut mapping intents as a basis for performing color gamut mappings, wherein a color mapping method is implemented by the rendering device for each of the color gamut mapping intents, and wherein the obtaining the associated desired document rendering strategy associated with the at least one rendering decision further comprises determining for at least one color in the document a desired color gamut mapping strategy comprising a second combination of the identified color gamut mapping intents.

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19. The medium as set forth in claim 18 further comprising:
performing the color mapping methods for each of the at least one color to obtain a plurality of basis color maps for each color; and
constructing a mapped color for each of the at least one color by
combining the basis color maps according to the second combination specified in the desired color gamut mapping strategy associated with the color.

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20. The medium as set forth in claim 19 wherein the constructing a mapped color for each of the at least one color by combining the basis color maps according to the second combination specified in the desired color gamut mapping strategy associated with the color further comprises:

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determining a weighted average of the basis color maps for the mapped color using a weight provided for each of the gamut mapping intents.

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21. A system comprising:
a document rendering intention system that defines a finite set of document rendering intents as a basis for document rendering;
a rendering intention expression system that expresses at least one desired document rendering strategy comprising a first combination of the document rendering intents; and

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an intention matching system that associates the at least one desired document rendering strategy with at least one rendering decision associated with a document.

5 22. The system as set forth in claim 21 wherein the document rendering intention system defines a finite set of color gamut mapping intents, wherein the rendering intention expression system expresses at least one desired color gamut mapping strategy comprising a second combination of the gamut mapping intents, and wherein the intention matching system associates the at least one desired color
10 gamut mapping strategy with at least one color in an input color gamut associated with the document.

 23. The system as set forth in claim 22 wherein the rendering intention expression system provides a weight for each of the gamut mapping intents.

15 24. The system as set forth in claim 23 further comprising a weight value determination system that determines values for the weights based upon at least one of the color, a position of the color within the document, the color at a particular position within the document, the color in a region of the document, and
20 an object within the document that is associated with the color.

 25. The system as set forth in claim 22 wherein the color gamut mapping intents comprise a colorimetric preserving intent, a hue preserving intent, a luminance preserving intent, or a saturation preserving intent.

25 26. The system as set forth in claim 21 further comprising:
 a document rendering system that identifies the finite set of document rendering intents at a rendering device, wherein a document rendering method is implemented by the rendering device for each of the document
30 rendering intents; and

 a rendering strategy system that obtains the associated desired document rendering strategy associated with the at least one rendering decision.

27. The system as set forth in claim 26 wherein the document rendering system performs the document rendering methods for each of the at least one rendering decision to obtain a plurality of intermediate rendering results for each rendering decision and constructs a final rendering result for each of the at least
5 one rendering decision by combining the intermediate rendering results according to the first combination specified in the desired document rendering strategy associated with the rendering decision.

28. The system as set forth in claim 26 wherein the document rendering
10 system identifies a finite set of color gamut mapping intents as a basis for performing color gamut mappings, wherein a color mapping method is implemented by the rendering device for each of the color gamut mapping intents, and wherein the rendering strategy system determines for at least one color in the document a desired color gamut mapping strategy comprising a second
15 combination of the identified color gamut mapping intents.

29. The system as set forth in claim 28 wherein the document rendering system performs the color mapping methods for each of the at least one color to obtain a plurality of basis color maps for each color and constructs a mapped color
20 for each of the at least one color by combining the basis color maps according to the second combination specified in the desired color gamut mapping strategy associated with the color.

30. The system as set forth in claim 29 wherein the document rendering
25 system determines a weighted average of the basis color maps for the mapped color using a weight provided for each of the gamut mapping intents.